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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,400	06/16/2005	Takashi Fujikawa	Q88448	2906
65565	7590	02/25/2009	EXAMINER	
SUGHRUE-265550			HAILEY, PATRICIA L	
2100 PENNSYLVANIA AVE. NW			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037-3213			1793	
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			02/25/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/539,400	FUJIKAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	PATRICIA L. HAILEY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 February 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-6 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

***Response to Amendment***

Applicants' Amendment after Final Rejection, filed on February 3, 2009, has been made of record, considered, and ENTERED. With the entry of this amendment, the finality of the previous Office Action has been withdrawn.

With the entry of the above amendment, no claims have been canceled or added; claims 1-6 remain pending in this application.

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on June 16, 2005.

***Withdrawn Rejections and Objections***

The nonstatutory obviousness-type double patenting rejection of claims 1, 3, and 4 as being unpatentable over claims 1, 4, and 5 of U. S. Patent No. 7,361,624 (formerly Application Serial No. 10/344,317) has been withdrawn in view of the Terminal Disclaimer filed by Applicants on February 3, 2009.

The objection to claims 5 and 6 for being in improper multiple dependent claim form, stated in the previous Office Action, has been withdrawn in view of the entry of Applicants' Amendment after Final Rejection.

The 103(a) rejection of claims 1 and 2 as being unpatentable over Dai et al. (U. S. Patent No. 5,397,456) in view of Dufresne et al. (U. S. Patent No. 6,559,092), stated

in the previous Office Action, has been withdrawn in view of Applicants' persuasive arguments traversing this rejection.

The 103(a) rejection of claims 3 and 4 as being unpatentable over Dai et al. (U. S. Patent No. 5,397,456) in view of Dufresne et al. (U. S. Patent No. 6,559,092), as applied to claims 1 and 2, and further in view of the Payen Article (Applicants' submitted art), stated in the previous Office Action, has been withdrawn in view of Applicants' persuasive arguments traversing this rejection.

### ***New Grounds of Rejection***

The following New Grounds of Rejection are being made in view of the Examiner's reconsideration of the instant claims, and in view of Fujikawa et al. (U. S. Patent Application Publication No. 2003/0173256, which corresponds to formerly copending Application Serial No. 10/344,317, now U. S. Patent No. 7,361,624).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Double Patenting***

**1. *Claims 1, 5, and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, and 7 of copending Application No. 10/594,451.***

Although the conflicting claims are not identical, they are not patentably distinct from each other because the respective sets of claims are drawn to catalysts

comprising an inorganic oxide support, 10 to 40% by weight of at least one Group 6 metal, 1 to 15% by weight of at least one Group 8 metal, and "carbon in an amount of 2 to 14% by weight" ('451 application) or "an organic acid at from 2 to 14 wt. % as an amount of carbon" (instant application).

In the instant application, phosphorus (in terms of an oxide) is present in an amount of 1.5 to 8% by weight; in the '451 application, phosphorus oxide is present in an amount of 15% by weight or less.

The respectively claimed catalysts exhibit comparable specific surface areas (150-300 m<sup>2</sup>/g in the instant application versus 100-400 m<sup>2</sup>/g in the '451 application), pore volumes (0.3-0.6 ml/g in the instant application versus 0.2 to 0.6 ml/g in the '451 application), and average or mean (synonymous terms) pore diameters (65-140 angstroms in the instant application versus 50-200 angstroms in the '451 application).

Although the claims in the instant application recite an additional property of the catalyst, in that, when the catalyst is observed on a diffuse-reflectance FT-IR after sulfidation treatment and subsequent NO adsorption, a value of I<sub>8</sub> group/ (I<sub>8</sub> group + I<sub>6</sub> group) is within the range of 0.7 to 1, it would necessarily follow that these properties would be exhibited by the catalyst in the patent, given the comparable amounts of the respectively cited and claimed components.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

**2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Fujikawa et al. (U. S. Patent Application Publication No. 2003/0173256).**

*The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by:*

*(1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).*

Regarding **claims 1, 5, and 6**, Fujikawa et al. teach a catalyst for hydrotreating gas oil, comprising an inorganic oxide support having provided thereon: 10 to 30% of at least one metal selected from Group 6 of the Periodic Table, from 1 to 15% by weight of at least one metal selected from Group 8 of the Periodic Table, phosphorus at from 1.5 to 6% by weight, and carbon from 2 to 14% by weight, wherein the catalyst has a

specific surface area of from 220 to 300 m<sup>2</sup>/g, a pore volume of from 0.35 to 0.6 ml/g, and an average pore diameter of from about 65 to 95 Å. The catalyst is prepared by providing the aforementioned components, using a solution comprising the Group 6 and Group 8 metals, organic acid, and phosphoric acid, followed by drying at a temperature of 200°C or lower.

Fujikawa et al. also teach a method for hydrotreating gas oil, which comprises subjecting a gas oil fraction to a catalytic reaction in the presence of the aforementioned catalyst under conditions including a hydrogen partial pressure of from 3 to 8 MPa, a temperature of from 300 to 420°C, and a liquid hourly space velocity of from 0.3 to 5 hr<sup>-1</sup>.

See paragraphs [0021]-[0023] of Fujikawa et al.

Regarding **claims 2-4**, Fujikawa et al. teach that the catalyst exhibits a pore diameter distribution such that the proportion of pores having a diameter which is within about  $\pm 15$  Å based on the average pore diameter is generally about 75% or higher ("75%" shares a common endpoint with claim 2). In addition, the catalyst of Fujikawa et al. is one which after a sulfidation treatment has laminating layers of molybdenum disulfide, the number of layers observed through a transmission electron microscope ranges from 2.5 to 5 on the average. Furthermore, the catalyst of Fujikawa et al. has an in-plane-direction length of the molybdenum disulfide layers, observed through a transmission electron microscope, which is from 1 to 3.5 nm, on the average.

See paragraphs [0071]-[0075] of Fujikawa et al.

Fujikawa et al. does not explicitly disclose that the catalyst, when observed on a diffuse-reflectance FT-IR after sulfidation treatment and NO adsorption, exhibits a value of I8 group/ (I8 group + I6 group) is within the range of 0.7 to 1. However, in view of the comparable amounts of the respectively disclosed and claimed components, it would necessarily follow that these properties would be exhibited by the catalyst of Fujikawa et al., absent the showing of convincing evidence to the contrary.

Further, as set forth above, Fujikawa et al. teach a catalyst comprising the same components as that instantly claimed, in respectively overlapping amounts, and exhibiting the same or similar characteristics in overlapping values. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a *prima facie* case of obviousness. In re Malagari, 182 U.S.P.Q. 549.

Moreover, a newly discovered property does not render a compound unobvious, if (1) the claimed compound is structurally obvious from a prior art compound, (2) the claimed compound possesses the same property for which the prior art compounds were useful, and (3) the prior art compound in fact possesses the newly discovered property of the claimed compound. Monsanto Co. v. Rohm & Haas Co. (DC ED Pa 1970) 420 F2d 950, 164 U.S.P.Q 556.

***Response to Arguments***

As stated above, Applicants' arguments traversing the rejections over Dai et al., in view of Dufresne et al., and further in view of the Payen Article are all persuasive.

The provisional double patenting rejection will be maintained until either the instant application or the copending '451 becomes in condition for allowance.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/  
Examiner, Art Unit 1793  
February 17, 2009